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10/509,596

09/29/2004

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EXAMINER

PIZIALI, ANDREW T

ART UNIT

PAPER NUMBER

1771

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

03/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/509,596

Applicant(s)

YOSHIMURA ET AL.

Examiner

Andrew T. Piziali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-11 and 13-28 is/are pending in the application.
- 4a) Of the above claim(s) 11 and 13-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/11/2007.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/11/2007 has been entered.

Specification

2. The disclosure is objected to because of the following informality: The specification refers to Patent Documents 1-11, but the documents do not appear to be specifically mentioned. In addition, the specification improperly refers to claims.

Appropriate correction is required.

Claim Objections

3. Claim 1 is objected to because of the following informality: The phrase "fibers comprises" in line 5 should read "fibers comprising." Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 and 3-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites the limitation "the optical interference fiber" in the second to last line. There is insufficient antecedent basis for this limitation in the claim. It is not clear which of the "optical interference fibers" is being referred to by "the optical interference fiber."

Claim Rejections - 35 USC § 102/103

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 3-5 and 8-9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 98/46815 to Asano et al. (hereinafter referred to as Asano) (USPN 6,430,348 is cited as a translation document).

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Regarding claims 1, 3-5 and 8-9, Asano discloses an identifying marker (non-woven fabric or embroidery yarn) attached as an identification target to a product (substrate), the identifying marker being characterized in that at least a portion of said identification target is formed by a planar arranged fibrous body made of optical interference fibers comprising an alternate laminated body obtained by laminating layers of polymers with different refractive indexes in an alternating fashion (see entire document including Figures 1-6, column 2, lines 45-54, column 28, lines 10-26, column 32, lines 44-68, and column 35, lines 17-25).

Asano does not appear to mention P polarized light or S polarized light, but considering that the identifying marker disclosed by Asano is identical to the claimed identifying marker, the identifying maker is inherently capable of being identified by P polarized light and S polarized light where the P polarized light and S polarized light are observed using a polarized plate for measurement of a wavelength and intensity curve of polarizing light passing through a slit of the polarizing plate oriented in the lengthwise direction of one of the optical interference fibers and a direction perpendicular thereto.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

In the event that it is shown that Asano does not disclose the claimed invention with sufficient specificity, the invention is obvious because Asano discloses that claimed constituents (such as a substrate and a nonwoven fibrous body made of the claimed optical interference fibers) and discloses that they may be used together. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the claimed composite motivated by the expectation of successfully practicing the invention of Asano.

Regarding claim 3, Asano discloses that the layer thickness may be 0.02-0.3 micrometers for each layer of said alternate laminated body, and the count of layers may be 5-120 layers (see the paragraph bridging columns 3 and 4, and column 6, lines 26-41).

Regarding claim 4, Asano discloses that a protective layer may surround the alternate laminated body (see Figure 2).

Regarding claim 5, Asano discloses that the polymers with different refractive indexes of said alternate laminated body are designated as: polymer A as the polymer with the high refractive index and polymer B as the polymer with the low refractive index, (said polymer A)/(said polymer B) may be the combination of (polyethylene terephthalate having a metal sulfonate salt-containing dibasic acid component copolymerized at 0.3-10 mole percent with respect to the total dibasic acid component)/(polymethyl methacrylate with an acid value of 3 or greater) (see the paragraph bridging columns 6 and 7).

Regarding claim 8, Asano discloses that the identification marker may comprise, as an identifier, a portion wherein the optical interference fiber is used to construct a body of an identifiable size as a nonwoven fabric (column 32, lines 44-67).

Regarding claim 9, Asano discloses that the fibrous body may be a mixture of different types of optical interference fibers having different wavelengths for interference light ranging from the infrared region to the ultraviolet region (column 22, lines 3-34 and column 27, lines 12-18).

Claim Rejections - 35 USC § 103

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/46815 to Asano as applied to claims 1, 3-5 and 8-9 above, and further in view of US 2002/0016117 to Hamajima et al. (hereinafter referred to as Hamajima).

Asano does not appear to mention the fiber possessing an interior polymer layer, but Hamajima discloses that it is known in the optical interference fiber art to insert a 3-component polymer layer in the intermediate portion of an alternate laminate optical interference fiber as a reinforcing portion (see entire document including [0013], [0052] - [0055], and Figure 1(c)). It would have been obvious to one having ordinary skill in the art at the time the invention was made to insert a 3-component polymer layer in the intermediate portion of the alternate laminate optical interference fiber of Asano, as taught by Hamajima, because the intermediate section would reinforce the fiber.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/46815 to Asano in view of US 2002/0016117 to Hamajima as applied to claim 6 above, and further in view of USPN 4,419,479 to Springer.

Hamajima discloses that intermediate reinforcing polymer layer may comprise a polymer other than the polymer used to form the alternating layers ([0013]), but Hamajima does not

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appear to mention specific other polymers. Hamajima is silent with regards to specific other polymers, therefore, it would have been obvious to look to the prior art for conventional reinforcing polymers. Springer provides this conventional teaching showing that it is known in the reinforcing polymer art to include fine metal particles in any of a variety of reinforcing polymeric materials to provide the reinforcing polymer with superior abrasion resistance, temperature resistance, and/or impact strength (see entire document including column 1, lines 7-21, column 2, lines 6-10 and column 3, lines 33-59). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include fine metal particles in the reinforcing polymer, as taught by Springer, motivated by the expectation of successfully practicing the invention of Hamajima and because the reinforcing polymer layer would possess superior abrasion resistance, temperature resistance, and/or impact strength.

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/46815 to Asano (as applied to claims 1, 3-5 and 8-9 above).

Asano discloses that the identification target may have a colored or dyed section containing the optical interference fibers (column 32, lines 60-68). Asano also discloses that the fibers may be shortly cut staple fibers (column 34, lines 12-24). Asano does not appear to specifically mention ink-painting the fibers to form the color, but the examiner takes Official Notice that ink-painting is a known fiber coloring method. It would have been obvious to one having ordinary skill in the art at the time the invention was made to color the fibers by any known method, such as ink-painting, because it is within the general skill of a worker in the art to select a known method of coloring on the basis of its suitability and desired characteristics.

Response to Arguments

12. Applicant's arguments filed 1/11/2007 have been fully considered but they are not persuasive.

The applicant asserts that all of the claims recite optical interference fibers being oriented in a lengthwise direction. The examiner respectfully disagrees. The only mention of a "lengthwise direction" is the orientation of the polarizing plate in reference to an optical interference fiber. The claims do not mention parallel fibers and the applicant is reminded that Species 1 from Species Group II was elected which is drawn to a nonwoven fabric.

The applicant asserts that in order to observe P polarized light or S polarized light the fibers have to be arranged parallel because random alignment (nonwoven structure) would lose its optical anisotropic character. The examiner respectfully disagrees. Firstly, the current specification teaches that P and S polarized light are observed when the slit axis of a polarizing plate is arranged parallel and perpendicular (respectively) to the lengthwise direction of a single optical interference fiber aligned in a planar fashion (see paragraph bridging pages 13 and 14). Secondly, the claims do not refer to optical anisotropic character.

The applicant asserts that Asano does not specifically mention observing P polarized light and S polarized light. The examiner contends that the current claims do not require the existence of P polarized light and S polarized light. Rather, the current claims simply require that the identifying marker is capable of being identified as claimed. Considering that Asano discloses the claimed fiber comprising an alternate laminated body obtained by laminating layers of polymers with different refractive indexes in an alternating fashion, *if* P polarized light and S

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polarized light were to be present when the polarizing plate is situated as claimed, the fibrous body would inherently possess the claimed property.

It is noted that the current specification clearly discloses that the unique function exhibited by the claimed optical interference fiber is the claimed P polarized light and S polarized light claim limitations (see page 13, line 26 through page 14, line 27). Considering that the applicant admits that Asano discloses the claimed fiber comprising an alternate laminated body obtained by laminating layers of polymers with different refractive indexes in an alternating fashion, the article disclosed by Asano inherently possesses the claimed P polarized light and S polarized light claim limitations.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

atp

572 1/31/07
ANDREW PIZALI
PRIMARY EXAMINER